Abstracts from Current Literature

MEDICINE

On the Action of Alkali Salts with Regard to the Setting free of Tetanic Symptoms in Healthy Grown up Individuals. Nothmann, M., and Wagner, A.

Concerning the Action of the Anions, particularly the Phosphate-ion on the Electric Excitability. Nothmann, M., and Guttmann, E. *Archv. f. Exper. Path. u. Pharm.*, 1924.

These articles come from the Medical Clinic of the University of Breslau. The authors point out that an increase in the quotient $\frac{Na}{Ca}$ is accompanied by an increased excitability of the cells and conversely a decrease in this quotient is followed by decreased excitability (Jacques Loeb); hence, one can change this ratio and increase or decrease the excitability. Only ionized calcium can act on living cells. Increased nervous excitability is caused by a decrease in the Ca ions and it is this that leads towards a condition of tetany. It is well to remember that the amount of ionized calcium is not altogether dependent on the total calcium of the organism.

Hitherto, known forms of experimental tetany agree with calcium decrease and phosphate increase in the blood, such as, in parathyreoprivia and in guanidine tetany. It is known that such tetany can be reduced quickly by intravenous injections of calcium. Again in normal animals, ten to twenty per centum $CaCl_2$ solutions will reduce the normal excitability. Greenwald has shown that in parathyroidectomized dogs there is a marked diminution in the excretion of phosphorus in the urine which was not accompanied by an increase in the elimination of this element in the faeces. He found that phosphorus was retained in the blood and thought that this was primary.

The authors observed particularly the changes in electrical excitability as well as the appearances of Chvostek's and Trousseau's signs. They used solutions of inorganic and organic potassium and sodium salts in acid, alkaline and neutral forms, and administered them by mouth and intravenously. It was found that all of the potassium salts caused increased excitability and there were the accompanying Mann-Erbsche phenomenon and the Chvostek's and Trousseau's signs. The strongest effect was with the di-potassium phosphate with which there was in addition the facial phenomenon of Schulze. This K-ion effect was influenced by the nature of the anion being greatest with that of the phosphate. The excitability is increased when the solutions are alkaline and diminished when acid.

The sodium salts act very feebly and only by virtue of the anions most marked in the case of di-sodium phosphate. In one experiment they used ammonium phosphate and found a lowered excitability, which supports Porges and Adlersberg in recommending the use of this salt in tetany.

Of the effect of the kations, that of potassium is considered as specific, and of the influence of the anions, the phosphate is greatest in the increasing of excitability. WESLEY BOURNE

Arteriosclerosis vs Hypertension. O'Hare, James and Walker, William G. *Archives of Internal Medicine*, March 5, 1924.

The authors were led to investigate the relationship of arteriosclerosis and hypertension by the accidental finding of normal retinal vessels in two patients with typical advanced arteriosclerosis of the radial and brachial arteries. Analysing these two cases, it was found that both patients had normal blood pressures. The authors then collected fifty such cases of non-hypertensive arteriosclerosis. The majority of the patients were old. Their observations on the peripheral vessels were confined to the radials, brachials and temporals. In examination of the retinal vessels they confined themselves largely to the two signs of arteriosclerosis which they regarded as absolute and beyond criticism. These signs were compression effects at arterio-venous crossings and irregularity of the lumen. The latter including beading and obliteration of the red columns through increasing opacity of the wall.

In the first fifty non-hypertensive cases, the peripheral sclerosis varied from slight tortuosity or thickening, to beading and calcification. More than half the cases showed marked sclerosis. In contrast, the retinal vessels showed almost no sclerosis. From an arrangement of the blood pressures according to an ascending value for the systolic, no relationship could be established between the height of either the systolic or diastolic

pressure, and the degree of peripheral sclerosis. The average age in the fifty non-hypertensive cases was 55.6 years.

A second series of fifty cases were investigated, in which there was peripheral sclerosis and a systolic pressure of over 145. The degree of peripheral sclerosis in this group averaged somewhat less than in the first fifty cases, the bulk of them being designated "moderate" or less. Sixty-eight per cent. of this second group showed a grade of retinal sclerosis classified as "marked." There was, however, a definite lack of relationship between the degree of sclerosis in the peripheral vessels and that observed in the retinal vessels, in the same case. There does, however, seem to be a qualitative relationship between the degree of retinal sclerosis and the blood pressure.

During their investigations they came across four cases, which at first sight, appeared to fall into the non-hypertensive group, although they did show definite retinal sclerosis. On going into their past histories it was discovered that all of them had previously been hypertensive. These findings suggested strongly that although hypertension occasionally occurs without evidence of sclerosis in the retinal muscles, the finding of the latter indicates the probability of a previous hypertension.

They summarize their findings as follows:—

(1) The cases emphasize the great importance of examining carefully the retinal vessels, instead of merely glancing at the fundi for the far less important haemorrhages and white spots.

(2) It has been definitely shown by F. Moore (Quart. Jour. Med., 10.29, 1916-1917) that the condition of the retinal arteries is a close guide to the condition of the cerebral vessels. Hence, the value of the retinal vessels in prognosis.

(3) The finding of retinal arteriosclerosis in patients with a normal or low blood pressure, probably indicates the existence of a previous hypertension with a subsequent myocardial weakening.

(4) Peripheral vessels play little or no part in hypertension.

(5) There is, however, a definite relationship between small vessel sclerosis, indicated in the retinal arteries, and high blood pressure.

(6) Nothing was developed from the observations to prove whether hypertension comes first and sclerosis second, or vice versa. Many cases of essential hypertension which are said to be free from association with arteriosclerosis, in reality may have a considerable degree of sclerosis of the small blood vessels.

(7) That the condition of the retinal vessels is a fair index of small vessels throughout the body.

L. C. MONTGOMERY

Streptococci in Epidemic Encephalitis. Rosenow, E. C. *Journ. of Infect. Dis.*, April, 1924.

Rosenow describes a special strain of green-producing streptococci as the probable causative agent of epidemic encephalitis. Consistent results were obtained in a series of undoubted cases of encephalitis, eighty-two in number, representing a wide range of types of the disease, and extending over a period of four years. The peculiar streptococci were isolated constantly from infected tonsils, teeth or nasopharynx during life, and from the brain after death. With this streptococcus in freshly isolated cultures, after as high as forty-four rapidly made subcultures, and after a series of animal passage, characteristic symptoms and lesions of different forms of encephalitis have been reproduced in animals.

The organism has been demonstrated in the lesions which develop spontaneously in man, and which have been produced experimentally in animals, and proved absent in adjacent normal tissues and in the brains of persons and animals that died from other causes. It has been shown to possess specific antigenic properties. Most of the strains are immunologically alike as determined by agglutination experiments with hyperimmune serums. The serums of patients with acute forms of the disease agglutinated specifically the homologous and many heterogenous strains. The requirements for proof of causal relationship between this streptococcus and encephalitis seem to have been fulfilled.

The organism varied greatly in size and shape, depending apparently on conditions of growth. Large and extremely small forms, sometimes in the same chain, and large oval forms breaking into small forms have repeatedly been seen in cultures and have been demonstrated repeatedly in the lesions of undoubted cases of encephalitis.

H. B. C.

Preparation of Dry Antitoxin and Agglutinin Powders. Hirsch, Edwin F. *Journ. of Infect. Dis.*, April, 1924.

A method is described for preparing a dry powder of diphtheria antitoxin. The substance so prepared is a light, white, starchy powder, soluble

to a certain extent in water, forming an opalescent liquid. The addition of a few drops of decinormal NaOH increases markedly its solution. In solution it is actively potent. It may be that dry powders with antitoxin properties can be preserved for considerable time without deterioration, and if this proves true, such preparations may have value commercially. A similar method is described for preparing dry powders from rabbit and human plasma with active agglutinating properties. H. B. C.

Inoculation with Secretions from Coryza. Robertson, R. C., and Groves, R. L. *Journ. of Infect. Dis.*, April, 1924.

In a series of experiments, nasal secretions were secured from eleven persons suffering with acute uncomplicated coryza. After being diluted and passed through a Berkefeld filter, these secretions were sprayed on the nasal mucosa of 100 volunteers. These experiments presented no convincing evidence of a filter passing organism as the exciting factor in acute coryza.

During the onset and early stages of an attack of coryza there was a marked diminution of the total bacterial flora of the nasal secretions, with an equally marked predominance of one of the normal habitants—usually staphylococcus albus. During the purulent stage of the attack, a marked increase of all organisms over the normal flora of health was observed, although the predominance of one organism still remained. When the secretions began to diminish, the bacterial flora diminished and gradually returned to that of health. H. B. C.

The Haemotoxins of Intestinal Parasites. Leidy II, Jos. *Jour. of Parasitology*, March, 1924.

It is quite clearly recognized that animal parasites in the intestinal canal or organs, give rise to mechanical and reflex disturbances. But the author thinks that other factors must also be taken into account, notably the secretions of parasitic worms. The broad tapeworm, e.g., is known to contain a haemolytic agent, and this parasite is well known as being able to cause severe anaemia. The hookworm and whipworm also secrete a haemolysin. Round worms have been shown to contain a peculiarly irritating matter, and marked itching of the fingers and eyes, with sneezing have followed the handling of *Ascaris lumbricoides*.

He thinks that parasitic anaemia is due more to these secreted haemolysins than to the direct abstraction of blood from the host by sucking. But while severe anaemias have undoubtedly been caused by the tapeworm, numerous cases are known in which the presence of these worms has not caused anaemia, and the explanation of this apparently is that the toxins of the worms give rise to antibodies.

Three cases are described in which round worms caused serious malnutrition and anaemia, and in one case, angioneurotic oedema, but with the removal of the worms there was rapid and complete recovery. Emphasis is laid on the fact that the worms showed varying degrees of disintegration and digestion. This was thought to be significant, but our knowledge of what substances are liberated during such degenerative changes, is very incomplete.

A high eosinophile count is presumptive evidence of parasitic infection, according to helminthologists. An observation of this nature, together with evidence being collected by numerous workers, should, it is thought, place the "parasitic syndrome" on a workable scientific basis. The author thinks that all cases of anaemia and malnutrition, especially in younger people, should be suspected of having parasitic infection, and the microscopic examination of faeces should become as much of a routine practice as urinalysis. H. E. M.

The Hippocratic Fingers. Campbell, D. *Brit. Med. Jour.*, Jan. 26, 1924.

In this paper a case presenting clubbed fingers is dealt with, the microscopical findings in one such finger removed during life are given, and the mechanism of clubbing is discussed. The patient was a woman of thirty-six, who eventually died of a large endothelioma of the lung; the fingers had become enlarged some months after the initial symptoms had appeared, and the patient also insisted that there was a period when the swelling of the fingers had definitely receded for a few weeks and had then returned again.

The essential difference between the microscopical picture of the clubbed and normal fingers, was the oedematous condition of the tissues at the finger tip in the former, especially that part of it lying between the nail bed and the bone. A general argument can hardly be based on one case, but the writer's own view is that the pathological basis of this condition is oedema. It is true that clubbing is usually slow in development and permanent in result, but many cases have been reported in which it appeared quickly and disap-

peared with removal of the prime cause. It has been noted in pneumonia and empyema. Passive congestion always plays an important part in the development of oedema, and from this point of view oedema is again suggested as the main factor in the clubbing seen in conditions where there is definite obstruction to the venous return of the arms, as in aneurisms of the brachial artery with pressure on the vein. In one case the clubbing was unilateral, and ligature of the affected artery almost completely removed it.

But to explain the clubbing seen most frequently in association with pulmonary and pleural lesions, is not so simple. The factor common to all, however, is the diminished amount of lung substance available for oxygenation, which leads to a lowered oxygen tension of the whole arterial blood, and so to a chronic impairment of oxidation in the tissues of the extremities. Here again is to be recalled the association of oedema with imperfect oxidation. It is difficult also to say why clubbing does not appear in all cases of bronchiectasis, for example. Again, there are no obvious signs of oedema, such as pitting. And, finally, other observers have failed to observe the same histological appearances as were found in this case.

It would be difficult to explain clubbing on the ground of some toxin, as the condition has been noted in so large a range of diseases, such as chronic jaundice, carcinoma of the oesophagus, congenital syphilis, rickets, malaria, etc., etc.

H. E. M.

SURGERY

Use of x-ray Therapy in Disturbed Menstruation. Rongy, A. J. *New York Jr. Obst. and Gyn.*, Feb., 1924.

The author is opposed to surgical interference for fibroid growths of the uterus in cases where there is cardio-renal disease, or where the location of the tumour increases the operative risk. About thirty-five per cent. of cases with fibroid growths of the uterus are poor surgical risks.

In this series of cases x-ray was used, and in only a very small percentage was operative interference necessary for recurrent uterine haemorrhage. He further demonstrates that small doses of x-ray may be used with great advantage in cases of menorrhagia, metrorrhagia, or to correct menstrual irregularities where the function of the ovary is disordered. In the hands of a skilled radiologist mild doses of x-ray acts as an ovarian stimulant, and he cites a series of various types of irregular menstruation which have been corrected by mild stimulating doses of x-ray.

A. D. Campbell

Foreign Body in Larynx with Absence of Cough Reflex. Ross, G. T. *The Laryngoscope*, Jan., 1924.

That a foreign body may exist in the larynx or upper respiratory tract and not be indicated by any pain or symptoms of obstructed breathing, or cough reflex, is well brought out in this article. A child of fifteen months was brought to Dr. Ross with a history of having swallowed a safety pin. The patient showed no signs of discomfort of any kind. This fact might easily mislead a practitioner. An x-ray plate, however, demonstrated the presence of an open safety pin lodged in the larynx. Under general anaesthesia the pin was removed, with little traumatism, by means of forceps curved on the flat.

G. E. Hodge

Roentgenologic Examination of the Gallbladder. Graham, E. A., and Cole, W. H. *J.A.M.A.*, Feb. 23, 1924.

This is a preliminary report on a method for x-ray examination of the gallbladder. In principle, the idea is the same as that underlying the x-ray examination of the gastro-intestinal tract; *i.e.*, use is made of some substance which is opaque to the rays and which is excreted in the bile, thereby giving an outline of the gallbladder. Investigations into liver function have already shown that certain dyes are excreted into the bile, and the authors have tried to find out which one of these dyes would suit their purpose. Experiments proved that some gave good shadows, but were too toxic, and eventually the choice was narrowed down to the calcium salt of tetrabromphenolphthalein.

A dose of 0.1 gm. per kilogram of body weight was found to be enough to cast a shadow; six grams is the largest dose yet used in this connection. The dye is ground up in water with calcium hydrate, in the necessary quantity, and is then dissolved in about 350 c.c. of distilled water. They found that a small amount of calcium lactate—2 gm. in solution—increased the solubility and stability of the solution. After sterilization by heat the solution is filtered. It is given intravenously, about thirty minutes being allowed for the administration. Three hours after injection the first x-ray is taken and is repeated at intervals of several hours. Good shadows

were obtained in all the patients examined, but in these cases the gallbladder presumably was healthy. The authors say that it is more difficult to get the shadow of a pathologic gallbladder, but this fact is held to be of some value as negative evidence. No untoward symptoms have resulted, except for transient nausea in one case. In experimental work on animals large doses were found to be toxic. H. E. M.

PAEDIATRICS

Enlarged Thymus. Pfahler, G.E., M.D., Philadelphia. *Arch. Ped.*, Jan., 1924.

Thymic enlargement may be present without causing symptoms and conversely the x-ray may fail to show enlargement when undoubted symptoms exist. This is due to the fact that only lateral enlargement is shown by the x-ray, while symptoms are caused by antero-posterior pressure. The classical symptoms are dyspnoea, cyanosis and inspiratory stridor but many cases do not show these. The chief complaint is often cough or attacks of choking. Certain general symptoms are believed to exist which are due to faulty endocrine function. These consist of flabbiness, lack of resistance to infection, tendency to convulsions, eczema and mental retardation.

Status lymphaticus is probably dependent on an enlarged thymus, while the symptoms referred to above are probably due to pressure which can actually be demonstrated by bronchoscopy. This pressure may be directed against the trachea, the superior vena cava, recurrent laryngeal nerve, the vagus nerve or the heart itself. X-ray shadows of the thymus vary considerably and are often difficult to distinguish from those of enlarged lymph nodes in the upper mediastinum. Both these conditions yield to x-ray treatment. The absence of an enlarged thymus at autopsy does not prove that the thymus was not enlarged during life. Failure to demonstrate a moderate amount of enlargement is usually due to the use of a too strongly penetrating ray or to too long exposure which permits of movement.

X-ray treatment of enlarged thymus gives uniformly brilliant results, improvement being seen almost immediately. Several exposures are necessary. Radium gives equally good results and has certain advantages over the x-ray. It is easily and quietly applied; it is more rapid in its action and one application is usually sufficient. It is therefore the method of choice.

L. M. LINDSAY

Meningeal Haemorrhages in the New-Born and their Consequences. Gordon, Alfred. *Am. Jour. of Dis. of Children.* April, 1924.

The early part of this article concerns itself with a discussion of the anatomy of the meninges, showing the blood channels that are carried within the septum, the falx cerebri and the tentorium cerebelli. During a difficult labour, the frequent changes in the shape of the head and the excessive tension over-stretch the septum, and tears follow. These tears may be complete or incomplete, unilateral or bilateral. When the tentorium is involved, the tear is usually found below its junction with the falx cerebelli. When the falx cerebri is damaged, the tear occurs at the level of its middle two-thirds. Subdural haemorrhages may occur over the surface of the cerebral hemisphere, particularly in foot presentation. Occasionally there may be haemorrhage at the base of the brain; ventricular haemorrhages are rare. The site of the haemorrhages is of importance. Haemorrhage below the tentorium though small is of graver consequence than a larger one above. Tears of the tentorium are most frequent and were found in seventy to seventy-five per cent. of dead foetuses delivered by breech presentation.

The immediate clinical manifestations are, collapse, cyanosis, low temperature, convulsions, circulatory and respiratory disorders, palsies and contractures. These stormy symptoms may subside and the child enters into a chronic state of physical and mental inferiority with a crippled central nervous system. The clinical varieties of the end results of meningeal haemorrhages are described as (1) cerebral diplegia, with spasticity but no mental inferiority, due to prematurity and congenital insufficiency of the pyramidal tract, or of another type associated with spasticity, paralysis, and disturbance of intelligence and convulsive phenomena. The association of intellectual phenomena with paralysis and spasticity of the limbs indicates a lesion in the frontal and Rolandic areas and in the presence of epileptiform manifestations is unfavourable for mental development. (2) If the haemorrhage is limited to one sphere, hemiplegia results, usually associated with mental deficiency. With the hemiplegia there is under-development of the affected limbs accompanied by contractures and deformities. (3) Although choreic and athetotic movements may be present with the above forms they may be present alone with more or less mental deficiency. (4)

Cases showing unilateral or bilateral cerebellar involvement, so called cerebellar hemiplegia or diplegia.

The author concludes that the cause of meningeal haemorrhages is the tearing of the membranes due to over-stretching caused by great cranial stress, and the preventative aspect of the treatment is obstetrical.

Supratentorial haemorrhages can be differentiated from subtentorial by clinical signs. In the former there is the bulging fontanelle, sleeplessness, restlessness, convulsions: in the latter apathy, somnolence, cyanosis, nuchal rigidity, vasomotor and respiratory manifestations. In the latter, lumbar puncture may be of value to relieve pressure and is apparently curative in some cases. In the former craniotomy is indicated. Some authors recommend the operation of lumbar puncture as a routine; if the haemorrhage is subtentorial, the blood may be removed and is of therapeutic value, whereas if the haemorrhage is supratentorial no blood appears in the spinal fluid and the diagnosis may be established from that fact. R. R. S.

Acute Fatty Enlargement of the Liver in Infants. Report of four cases with Necropsy Examinations. Kohn, Jerome L. *Am. Jour. of Dis. of Children*, April, 1924.

Two of these infants suffered from metallic poisoning, one from phosphorus, the other from arsenic. The other two reported, appeared to be the victims of an intense toxaemia of unknown origin. The liver was palpable as a large tumour extending down into the right pelvis, accompanied in one case by a moderate enlargement of the spleen. The interesting points were the necropsy findings, particularly in the liver, which showed macroscopically great increase in size, with pale yellow and pink mottling. On cut section the surface was distinctly greasy and showed the same pale yellowish areas surrounded by pink. Microscopically there was an intense parenchymatous degeneration and fatty infiltration of the liver cells, but no areas of necrosis or cellular infiltration. The condition was identical in three cases, the fourth showed some necrosis and a small amount of cellular infiltration.

Phosphorus, arsenic and chloroform are the most frequent causes of rapid fatty enlargement of the liver. Less marked enlargement may be caused by some acute infections, acute intestinal intoxications and some systemic disease (tuberculosis, syphilis). MacCallum believes that the deposit of fats is an infiltration rather than a degeneration. A marked increase in the amount of fat circulating in the blood is one of the associated findings, which occurs only when the glycogen content of the liver is very low and when the body is undergoing carbohydrate starvation, as in acute intestinal toxaemia, so that the liver cells must burn a great amount of fat to supply their energy needs. The fat reserve of the body is mobilized more rapidly than the cells can utilize it, or there may be a diminished oxidation of fat within the liver cells, leading to an intracellular deposition of fat, because the rate of utilization is slower than the rate of supply, as in passive congestion.

It has been shown experimentally with animals poisoned with phosphorus, that the use of glucose intravenously and by mouth, will prolong life. It would seem reasonable to give glucose in the treatment of these cases with the hope of assisting the liver in the oxidation of the fat. R. R. S.

DERMATOLOGY

The Clinical Aspects of Cutaneous Reactions after Arsphenamin. Klander. *J.A.M.A.*, March 22, 1924.

Arsenic has long been recognized as a rare cause of eruption of the skin. With the millions of intravenous injections of diarsenol and allied arsenical compounds it is not surprising that this type of dermatitis medicamentosa is increasing. This is an illustrated analysis of these untoward cutaneous reactions, which consist of erythematous, squamous, macular eruptions of varying severity, from sparse macules to universal erythema, or, if severe, dermatitis exfoliativa. The macules may be guttate or nummular, morbilliform or scarlatiniform. In the mild cases the eruption disappears in a few days. The majority of cases develop into a fairly universal erythema with branny scaliness. Pruritus develops early and is in direct proportion to the severity. The acute cases are accompanied by severe headache, gastrointestinal symptoms and fever. A scarlatiniform eruption develops suddenly and progresses to dermatitis exfoliativa. Severe cases may be accompanied by conjunctivitis and facial oedema, with a follicular papular eruption of the trunk, or vesicles and bullae situated usually on the hands and feet. Additional cutaneous manifestations of arsenical poisoning are pustular and ulcerative lesions, pigmentation, hyperkeratosis, herpes zoster, hyperidrosis and erythema of

palms and soles with itching pain, tenderness and paraesthesia.

Many diseases are simulated, more or less, by post-arsphenamin dermatitis, i.e., lichen planus, scarlet fever, measles, pityriasis rosea, seborrhoeic dermatitis and papular eczema.

In a large group the incidence of the reaction was one in 800 injections. Twenty per cent. of these were severe. Post-arsphenamin exfoliative dermatitis is less chronic than the disease arising from other causes. It involves in a relatively short time or death follows.

Any eruption appearing in the course of intravenous arsenical therapy, particularly if itchy, red and scaly, should be regarded with suspicion and the treatment postponed. Paraesthesia of the feet is another danger signal (arsenical neuritis). It develops in many patients after eight or ten weekly full doses.

Other evidences of arsenical poisoning should not be neglected, i.e., gastro-intestinal symptoms, anorexia, malaise, lassitude and loss of weight. If treatment is continued the patient becomes more intolerant to the drug and arsenical administration becomes impossible except in very small dosage.

Another group of reactions appears during or immediately after the injection in less than one per cent. of cases and is attributed to vaso-motor reaction. These are characterized by some or all of the following:—constriction of the chest, fullness in the head, coughing, conjunctival congestion, pupillary dilatation and rapid pulse. If severe, there is marked respiratory distress, twitching of the limbs and unconsciousness. The reaction is usually transitory though fatal cases have been reported. Urticaria may appear either immediately or after a few hours and is usually fleeting. Prolonged administration favours this manifestation.

The Herxheimer reaction occurs when an untreated syphilitic patient in the acute stage receives an initial full dose. There is an accentuation of the eruption, fever andconstitutional sym ptoms. It may be avoided by a smaller first dose.

Reference is made to herpes simplex and zoster (Hutchinson). Purpura is rare and is doubtless due to the vasculo-toxicity of arsenic. With the latter there may be bleeding of the gums and nose as shown by one fatal case. Pigmentation was present in one case of prolonged administration where one hundred injections were given.

The article contains ten excellent illustrations from the author's cases. C. R. B.

The Danish Treatment of Scabies. Greenwood, Arthur M. *Journ. Am. Med. Assoc.*, Feb. 9, 1924.

A twenty-four hour method of treating this protean disease is here outlined.

An ointment with potassium sulphide as its important element is applied to the whole body, except the head. Hydrogen sulphide is produced when this is in contact with the skin. After a wait of fifteen minutes for absorption the patient goes to bed. Twenty-four hours later he receives a bath and fresh underclothes and the treatment is finished. Disinfection of the bedding, etc., and treatment of the balance of the household are urged.

Lomholt reported 678 cases from 1915 to 1920, without a single relapse, and only two cases of dermatitis, due to faulty ointment. Greenwood treated eighty-four cases, with success in all but three, and in these directions were not followed. Dermatitis was produced in two of the latter series when the ointment was applied for five days by mistake. It is claimed that the one-day treatment does not cause dermatitis and itching as, sometimes, is seen after the three-day method.

The amount of time and care necessary to make this ointment would make its cost prohibitive for scattered cases unless it could be procured from a clinic where it was in constant use. In these cases the old three-day sulphur ointment method is recommended. The method of preparation is as follows:—

(1) One kilogram of sublimed sulphur is mixed with 2 kg. of fifty per cent. solution of potassium hydroxide (as free from water as possible). Gentle heat is applied until reaction ceases and the solution clears. At the completion of the process sulphur should be in slight excess.

(2) Petrolatum and wool fat 225 gm. of each, are mixed without heat. To this mixture is added 375 gm. of the solution of sulphur and potash mentioned above.

(4) To 40 gm. of 20% NaOH solution is added 28 gm. of zinc sulphate. The mixture is agitated thoroughly until reaction ceases, poured on filter paper, and washed thoroughly; then the washed precipitate is added to the foregoing.

(5) Liquid petrolatum is added to obtain a total weight of 1,000 gm.

(6) Five grams of oil of bitter almond is added to check the disagreeable odour of hydrogen sulphide. C. R. B.